APPENDIX B
Glossary of Technical Terms

GLOSSARY OF TECHNICAL TERMS


ACCESS LINK: A LINK used to reach a transit line. In this model, there are two types of access links: walk and auto (park-and-ride)

ALL-OR-NOTHING ASSIGNMENT: The process of allocating trips between each pair of zones to a path or route with the least travel time, ignoring any considerations of congestion.

ASCII FILE: American Standard Code for Information Interchange. A text file, usually containing TRANPLAN control cards and/or data.

ASSIGNMENT: The process by which trips described by mode, origin, destination, and time of day are distributed among the various available paths or routes in a network, according to one of a number of flow distribution rules.

ATTRACTION (TRIP): The non-home end of the trip, which is the reason for the trip being made. Employment centers, stores, entertainment facilities, etc. all generate trip attractions.

AUTO DRIVER TRIPS: The same as VEHICLE TRIPS.

BASE YEAR: A year for which land use, demographic, and other information is assembled as a baseline, against which the entire modelling sequence can be CALIBRATED. In the Sonoma County model, 1984 is the base year.

BATCH FILE: A DOS file containing a sequence of DOS commands. Executing the DOS file (which must have the extension BAT) is the same as executing a series of commands each time the A>prompt is received. It is like a script.

BUILDING (NETWORK): The computerized process of checking the network for errors, and creating a compressed binary representation of the file for further processing.

CALIBRATION: The process of adjusting travel models to simulate some known BASE YEAR **travel.**

CAPACITY RESTRAINT: The process by which the assigned volume on a Ink is compared with the practical capacity of that Ink, and the speed of the link adjusted to reflect the relationship between speed, volume, and capacity. The procedure is iterative until a realistic balance is achieved.

CENTROID: The theoretical center of activity in a ZONE.

CENTROID CONNECTOR: One or more LINKs connected a CENTROID to the transportation network.

CODING (NETWORK): The process of taking maps, logs, and other descriptive data on a transportation network, and converting it to the numerical conventions suitable for processing by a computer.

CORDON LINE: An imaginary line enclosing a study area.

CORDON STATION: See GATEWAY.

DISTRICT: A grouping of contiguous zones that are aggregated to larger areas.

DOS: Disk Operating System. The most widely used operating system on personal microcomputers.

DRIVER TRIPS: Same as VEHICLE TRIPS.

EXTERNAL STATION: See GATEWAY.

EXTERNAL TRIP: A trip with one TRIP END outside the study area (in this case, outside Sonoma County)

EXTERNAL ZONE: A zone lying outside the primary study area. A gateway must be represented by a least one zone, but can be comprised of several zones. To the software, no differentiation is made between internal and external zones in loading, although they are handled differently during the trip distribution phase.

F-FACTOR: Factors representing the effect that various levels of travel time will have on travel between zones.

FRICTION FACTOR: (see F-factor)

GATEWAY: An entry point to the study area (County). The are the points through which all external and through trips must pass at some point.

GRAVITY MODEL: A mathematical model of trip distribution based on the premise that trips produced in any given area will distribute themselves in accordance with the accessibility of other areas, and the opportunities they offer.

HOME-BASED TRIP: A trip with one TRIP END at the traveler's residence, in other words, a trip that starts OR ends at the home of the traveler.

HOME-BASED ATTRACTIONS: Trips made by workers, shoppers, etc. to and from a place of work, shopping, etc., with one end at home. They are non-directional trips credited to the place of work, shop, etc.

HOME-BASED PRODUCTIONS: Trips made by residents of a home to and from other activities, such as work, shopping, etc. They are non-directional trips credited to the home end.

HORIZON YEAR: The future year under study.

HOV: High Occupancy Vehicle, in other words, buses and carpools. The size of carpools are variously defined. The Federal Highway Administration considers a carpool 3 or more persons. As used in this study, carpools (and thus eligibility to use HOV lanes) is assumed to be 2 or more persons.

INTERNAL TRIP: A trip with both TRIP ENDS within a study area (in this case, Sonoma County)

INTRAZONAL TRIP: A trip which remains entirely within a ZONE, i.e. both TRIP ENDS are within the same zone. Intrazonal trips do not get loaded onto the network.

IVTT: In vehicle travel time. The time actually spent in the LINE HAUL MODE vehicle.

IX (INTERNAL-EXTERNAL TRIP): A trip with one TRIP END inside the study area, and one trip end outside the study area.

K-FACTOR: An adjustment factor applied between zones (or groups of zones) in the gravity model trip distribution process. The purpose of the K-factor is to capture special socio-economic or other factors which are not adequately replicated by the F-FACTORS in the model.

LINE HAUL MODE: The mode of travel in which the greatest distance is travelled; opposite of access mode, which is typically a shorter trip made to access the line haul mode.

LINK: A section of the highway or transit network, defined by a NODE at each end. A link may be two-way (normally) or one-way.

LOAD HISTORY: A TRANPLAN name for an output file from a trip assignment program. The load history contains information on links (length, speed, capacity, type facility, etc.), as well as the travel volume assigned to each link. The load history file is then used as an input to another program that generates reports on the assigned volumes

LOGIT MODEL: A mathematical form of a MODE SPLIT MODEL. A key feature of the logit model is that it presumes traveler's are most sensitive to a choice between two modes when both are nearly equal in cost and travel time.

MODE SPLIT MODEL: A mathematical formulation express used to predict what mode of travel people will use (bus, auto, etc.), based on various factors which are assumed to influence that choice: relative travel time and cost being the two most important.

MTC: Metropolitan Transportation Commission, Oakland.

NETWORK: A set of nodes and connecting links that represent transportation facilities in an area.

NON-HOME BASED TRIP: A trip for which neither TRIP END is at the traveler's place of residence. In other words, trips which have neither end at the home of the traveler.

OD: Origin-destination. OD tables differ from P/A tables because they do not indicate which end of the trip is the home end. An example illustrates this best: consider trips between made between London and Boston. An O-D table might indicate 525 trips from London to Boston in the month of June, and 650 from Boston to London. We do not know from this how many were made by U.S. citizens visiting England, and how many were made by British subjects visiting the U.S.-- we simply know how many trips were made, regardless of the home end. The flows do not match during the month of June, although we presume that if we measured the travel for a long enough period of time (say a year or more), that the flows would balance, with everyone who left home also eventually returning. The same is true of OD tables-- no indication is given as to the home end , and over a period (24 hours) we assume the flows are symmetric-- that is, all of the flows from zone I to J should equal the flows from zone J to I.

OVTT: Out of vehicle travel time.

PATH BUILDING: The process of determining all the feasible paths between two zones.

PERSON TRIP: A trip made by one person, and having two TRIP ENDS. One person driving to work (one way) is one person trip; two people driving to work together in one car is two person trips.

PRODUCTION (TRIP): The number of home-based trip-ends in the zone of residence. For non-home based trips, productions are synonymous with origins.

SCREENLINE: A group of links in a general area used for model calibration or comparison of runs. A screenline can be drawn across a natural barrier (e.g. a river, a mountain, etc.) but does not have to be.

SKIMMING (NETWORK): The process of determining the shortest paths between all possible zone pairs, based on some-criteria (usually travel time, but

possibly including cost or distance). This process results in "skimmed trees," a series of binary records containing the travel times between every pair of zones in a network.

SPECIAL GENERATORS: Trip generating activities whose characteristics are not adequately estimated by the conventional trip generation model. Examples include universities, airports, larger sports complexes, etc.

THROUGH TRIP: See XX trip. A trip through the County with no trip end within in.

TRAVEL ANALYSIS ZONE (TAZ): See ZONE.

TRIP: A one-direction movement which begins at the origin at the start time, ends at the destination at the arrival time, and is conducted for a specific purpose.

TRIP END: Either a trip origin or a trip destination. Thus, every complete trip will have two trip ends.

TRIP TABLE: A table (matrix) showing trips between ZONES or between DISTRICTS, either directionally or two-way. The trips may be separated by mode, by purpose, by time period, by vehicle type, or by other criteria.

TWLTL: Two way left turn lane.

VEHICLE TRIP: A TRIP made by a vehicle or truck from an origin to a destination. A vehicle trip involves at least one, and possibly several, PERSON TRIPs.

V/C RATIO (VOLUME/CAPACITY RATIO): A measure used to indicate the level of congestion on a LINK. Depending on how CAPACITY is defined, this can be translated into travel delay. V/C ratios greater than 1 are always considered undesirable.

VHT: Vehicle hours of travel.

VMT: Vehicle miles of travel.

XX TRIP (EXTERNAL-EXTERNAL TRIP): A trip that passes through the study area, but that has not TRIP END within it. E.g. a trip from Novato to Cloverdale is a XX trip when Sonoma County is the study area.

ZONE: A portion of a study area, delineated for land use and travel analysis purposes. A zone has one and only one CENTROID.